UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,753	07/30/2004	Dinesh R. Patel	68.0505	4752

35204 7590 09/25/2009

SCHLUMBERGER RESERVOIR COMPLETIONS
14910 AIRLINE ROAD
ROSHARON, TX 77583

EXAMINER	
HARCOURT, BRAD	

ART UNIT	PAPER NUMBER
3676	

NOTIFICATION DATE	DELIVERY MODE
09/25/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

VSOLIS2@SLB.COM
ABrown15@rosharon.oilfield.slb.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SCHLUMBERGER TECHNOLOGY CORPORATION

Appeal 2009-005581
Application 10/710,753
Technology Center 3600

Decided: September 23, 2009

Before JAMESON LEE, RICHARD TORCZON, and
SALLY C. MEDLEY, *Administrative Patent Judges*.

LEE, *Administrative Patent Judge*.

DECISION ON APPEAL

A. STATEMENT OF THE CASE

This is a decision on appeal by the real party in interest, Schlumberger Technology Corporation [hereinafter STC], under 35 U.S.C. § 134(a) from a final rejection of claims 1-23. We have jurisdiction under 35 U.S.C. § 6(b). We affirm-in-part.

References Relied on by the Examiner

Murray	5,862,865	Jan. 26, 1999
Ringgenberg	2002/0023746 A1	Feb. 28, 2002
Williamson	6,668,936 B2	Dec. 30, 2003

The Rejections on Appeal

The Examiner rejected claims 1-5, 7, and 19-23 under 35 U.S.C. § 102(b) as anticipated by Williamson.

The Examiner rejected claim 14 under 35 U.S.C. § 102(b) as anticipated by Ringgenberg.

The Examiner rejected claims 6 and 8-13 under 35 U.S.C. § 103(a) as unpatentable over Williamson and Murray.

The Examiner rejected claims 15-18 under 35 U.S.C. § 103(a) as unpatentable over Ringgenberg, Williamson and Murray.

The Invention

The invention relates to a valving system for preventing cross flow between hydrocarbon formations that intersect a wellbore. (Spec. Abstract.)

Claim 1 is reproduced below (App. Br. 12 Claims App'x):

> A system for preventing cross-flow between at least two formations intersecting a wellbore, comprising:
>
> a flow valve controlling the flow from one of the formations;

the flow valve actuated with a hydraulic control line;

a cross-flow prevention valve selectively preventing flow between the formations; and

the cross-flow prevention valve actuated with the hydraulic control line.

B. ISSUES

1. Has STC shown that the Examiner was incorrect in finding that Williamson discloses a flow valve and a cross-flow prevention valve?

2. Has STC shown that the Examiner was incorrect in finding that Williamson discloses a single hydraulic line for actuating a flow valve and a cross-flow prevention valve?

3. Has STC shown that the Examiner was incorrect in finding that Ringgenberg's check valve 104 is a second multi-position flow valve controlling the flow from a next adjacent active formation?

C. FINDINGS OF FACT

1. Williamson discloses a hydraulic control system for operating multiple well tool assemblies within a well bore. (Williamson Abstract.)

2. Williamson's Figure 1 is reproduced below:

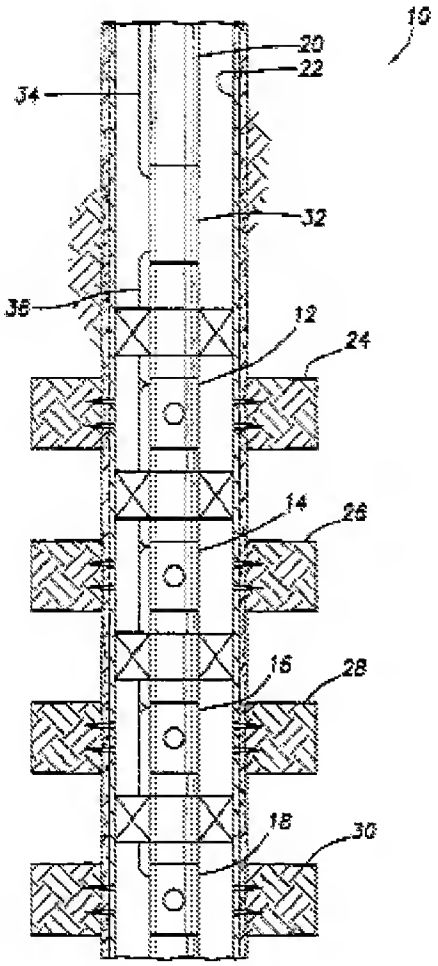

Figure 1 above depicts a hydraulic control system.

3. Williamson discloses that each of tool assemblies (i.e., valves) 12, 14, 16, and 18 are interconnected in a tubular string 20 of a wellbore 22 and act to control the flow of fluid from one of formations 24, 26, 28, and 30. (*Id.* at 3:10-18.)

4. Williamson states the following (*Id.* at 3:32-39):

> One or more control lines 34, or other type of flowpaths, extend to a remote location, such as the earth's surface, or to a remote location within the wellbore 22, etc. The control module 32 places one or more of the control lines 34 in fluid communication with one or more lines

> 36, or other types of flowpaths, extending to the tool assemblies 12, 14, 16, 18 when it is desired to operate selected ones of the tool assemblies, for example, to open or close one or more of the tool assemblies.

5. Williamson also discloses that (*Id.* at 1:18-22):

> [I]t is uneconomical and practically unfeasible to run separate hydraulic control lines from the surface to each one of numerous well tool assemblies. Instead, the number of control lines extending relatively long distances should be minimized as much as possible.

6. STC's specification describes "multi-position valves" as valves "that have a number of partially open positions between fully open and fully closed[]" (Spec. ¶ 0001) and valves "that have at least one position between fully open and fully closed[]" (Spec. ¶ 0013).

7. Ringgenberg discloses a method and apparatus for testing subterranean formations in which fluids from a first formation are flowed into a tubular string in a well and disposed of by injecting the fluids into a second formation. (Ringgenberg 1: ¶ 0009.)

8. Ringgenberg's check valve 104 simply releases fluid into disposal formation 84 in response to pressure. (*Id.* at 4: ¶ 0045.)

9. Ringgenberg also discloses that disposal formation 84 may receive any volume of fluid from test formation 82. (*Id.*)

D. PRINCIPLES OF LAW

Anticipation is established when a single prior art reference discloses all elements of the claimed invention. *In re Spada*, 911 F.2d 705, 708 (Fed. Cir. 1990).

During examination, claim terms are given their broadest reasonable interpretation consistent with the specification. *In re Prater*, 415 F.2d 1393, 1404 (CCPA 1969).

We look to the specification as the single best guide in determining the meaning of a claim term. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005).

E. ANALYSIS

Claims 1, 14, and 19 are independent claims. Dependent claims 2-5, 7, and 20-23 are ultimately dependent on, and argued collectively with, one of claims 1 and 19. Claims 6 and 8-13 are urged as patentable based on their ultimate dependence on claim 1 "as well as for their unique subject matter recited in these dependent claims." (App. Br. 9:4-6.) That quoted statement is not an argument for patentability of claims 6 and 8-13 apart from the patentability of claim 1. "A statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim." 37 C.F.R. § 41.37(c)(vii). STC's statement does even less. We group claims 2-13 and 20-23 with independent claims 1 and 19. Claims 14-18 are separately argued.

Claims 1-13 and 19-23

The Examiner rejected independent claims 1 and 19 as anticipated by Williamson. Claim 1 is a system claim that requires a "flow valve actuated with a hydraulic control line" and a "cross-flow prevention valve" that is "actuated with the hydraulic control line." (App. Br. 12 Claims App'x.) Claim 19 is a method claim that corresponds to claim 1 and includes the following steps (App. Br. 14 Claims App'x):

controlling the flow from one of the formations with a flow valve;

selectively preventing flow between the formations with a cross-flow prevention valve; and

actuating the cross-flow prevention valve and the flow valve with a single hydraulic line.

STC first contends that Williamson does not disclose a flow control valve combined with a cross-flow prevention valve. (App. Br. 6:20-24.) In particular, according to STC, Williamson does not disclose a cross-flow prevention valve.

During examination, claim terms are given their broadest reasonable interpretation consistent with the specification. *In re Prater*, 415 F.2d at 1404. STC's specification does not define the term "cross-flow prevention valve" as having any special meaning or as requiring any specific structure. A "cross-flow prevention valve" is a valve positioned and operated to prevent the cross-flow of fluid between formations.

The Examiner found that Williamson discloses a wellbore having four valve assemblies 12, 14, 16, and 18. (Ans. 3:18-19.)

Williamson's Figure 1 is reproduced below:

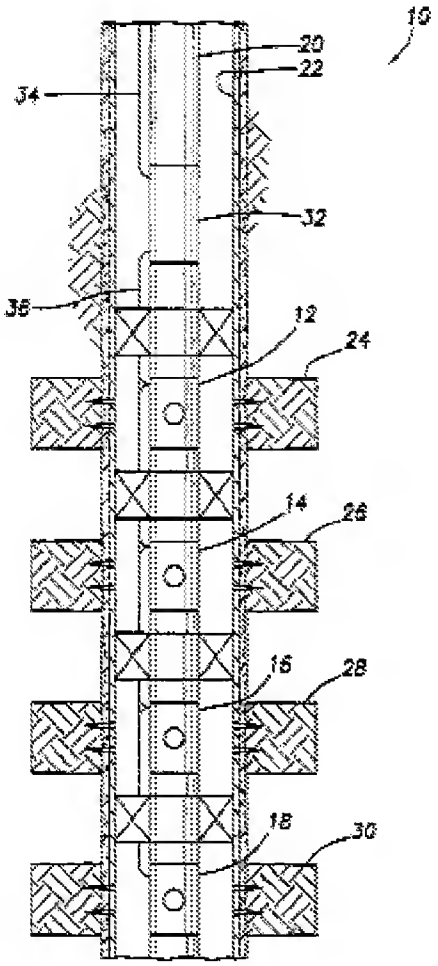

Figure 1 above depicts a hydraulic control system.

Williamson discloses that each of tool assemblies (i.e., valves) 12, 14, 16, and 18 are interconnected in a tubular string 20 of a wellbore 22 and act to control the flow of fluid from one of formations 24, 26, 28, and 30. (Williamson 3:10-18.) The Examiner found that each of those valves are flow control valves for their associated formation and are also valves that prevent cross-flow of fluid to the other formations. (Ans. 3:21-4:1.) In particular, the Examiner explained that (Ans. 7:3-7):

> Williamson discloses a first valve 18 associated with formation 30 and a number of other valves 12, 14 and 16 that selectively prevent cross flow between formation 30 and formations 24, 26 and 28, respectively. They are not explicitly disclosed as for use in preventing cross flow between formations, but do prevent cross flow when they are closed.

The Examiner's explanation is reasonable. Each of the valves disclosed in Williamson, when open, operates as a flow control valve for its associated formation, and, when closed, operates to prevent cross-flow between the other formations that intersect the wellbore. We reject STC's argument that Williamson does not disclose a "cross-flow prevention valve."

STC also contends that Williamson does not disclose valves that are actuated by a single hydraulic line. (App. Br. 6:23-7:3.) According to STC, Williamson discloses that each of its valves is connected to a separate hydraulic line and thus requires multiple hydraulic control lines for controlling its valves. (App. Br. 5:21-6:11.)

In rejecting STC's claims 1 and 19, the Examiner determined that Williamson discloses one embodiment in which a single control line 36 is used to actuate each of the valves, 12, 14, 16, and 18. (Ans. 7:10-12.)

Williamson states the following (Williamson 3:32-39):

> One or more control lines 34, or other type of flowpaths, extend to a remote location, such as the earth's surface, or to a remote location within the wellbore 22, etc. The control module 32 places one or more of the control lines 34 in fluid communication with one or more lines 36, or other types of flowpaths, extending to the tool assemblies 12, 14, 16, 18 when it is desired to operate selected ones of the tool assemblies, for example, to open or close one or more of the tool assemblies.

Thus, Williamson discloses that its hydraulic control system may include as few as a single control line 34 which is fluidly connected to control module 32 and a single control line 36 that extends from the control module to the tool assemblies or valves 12, 14, 16, and 18. Williamson's Figure 1, reproduced above, shows only a single hydraulic line connected to all the valves.

Furthermore, Williamson discloses that (Williamson 1:18-22):

> [I]t is uneconomical and practically unfeasible to run separate hydraulic control lines from the surface to each one of numerous well tool assemblies. Instead, the number of control lines extending relatively long distances should be minimized as much as possible.

In light of those teachings, we reject STC's argument that Williamson requires separate hydraulic control lines for each of its valves. That argument disregards Williamson's specific disclosure of using "one" or more control lines to control module 32 and "one" or more control lines from control module 32 to the valves. That STC supports its argument by pointing to portions of Williamson that describe other embodiments of its invention having more than one control line 36 is misdirected. STC has not shown that the Examiner erred in determining that Williamson's embodiment with a single hydraulic line satisfies the corresponding hydraulic line requirements of STC's claims 1 and 19.

For the foregoing reasons, we sustain the rejection of claims 1-5, 7, and 19-23 as anticipated by Williamson. We also sustain the rejection of claims 6 and 8-13 under 35 U.S.C. § 103(a) as unpatentable over Williamson and Murray.

Claims 14-18

The Examiner rejected independent claim 14 as anticipated by Ringgenberg. Claims 15-18 are urged as patentable based on their dependence, either directly or indirectly, on claim 14 and "for the unique subject matter recited in these dependent claims." (App. Br. 10:6.) As noted above, that quoted statement is not an argument for the patentability of claims 15-18 apart from claim 14. 37 C.F.R. § 41.37(c)(vii). We group claims 15-18 with claim 14. Claim 14 is reproduced below (App. Br. 13 Claims App'x):

> A system for preventing cross-flow between at least two formations intersecting a wellbore, comprising:
>
> a first multi-position flow valve controlling the flow from a first formation;
>
> a second multi-position flow valve controlling the flow from a next adjacent active formation; and
>
> a cross-flow prevention valve disposed between the first multi-position flow valve and the second multi-position flow valve to selectively prevent flow between the first formation and the next adjacent active formation.

STC disputes that Ringgenberg discloses "a second multi-position flow valve controlling the flow from a next adjacent active formation." (App. Br. 8:3-9.)

In rejecting claim 14, the Examiner stated (Ans. 4:13-18):

> Ringgenberg discloses a system 20 for preventing cross-flow in a wellbore comprising first multi-position flow valve 30 that is "used to selectively permit fluid communication between the wellbore 12 [from formation 82] and the interior of fluid assembly 20" (par. 0025); second multi-position flow valve 104 controlling flow from formation

> 84 into assembly 20; valve 40 preventing flow between the two formations 82 and 84.

STC contends that Ringgenberg's element 104 is not a multi-position valve that controls flow from a formation. In particular, STC urges that element 104 is simply a one-way check valve that allows fluid to be deposited into "disposal formation 84" in response to pressure exerted on the check valve. (App. Br. 8:5-11; Reply Br. 7:14-23.)

In response, the Examiner states "[w]hile it is true that the valve 104 is a check valve, the valve 104 does in fact control flow out of the formation (in that it prevents it completely) and is a multi-position valve as it has open and closed positions." (Ans. 7:16-19.)

We focus first on the meaning of "multi-position valve." We look to the specification as the single best guide in determining the meaning of a claim term. *Phillips,* 415 F.3d at 1315. STC's specification describes "multi-position valves" as valves "that have a number of partially open positions between fully open and fully closed[]" (Spec. ¶ 0001) and valves "that have at least one position between fully open and fully closed[]" (Spec. ¶ 0013). In light of the specification, we construe "multi-position valve" as meaning a valve that has at least one partially open position between fully open and fully closed.

The Examiner's determination that Ringgenberg's check valve 104 is a "multi-position valve" because it has an open and closed position is not reasonably consistent with STC's specification. Here, a multi-position valve must have at least one partially open position. The Examiner does not point to any portion of Ringgenberg as disclosing that check valve 104 has any

open position other than fully open. Ringgenberg's check valve 104 is not a multi-position valve.

Furthermore, according to claim 14, the multi-position valve must also be "controlling the flow from a next adjacent active formation[.]" Ringgenberg discloses that its check valve 104 simply releases fluid into disposal formation 84 in response to pressure. (Ringgenberg 4: ¶ 0045.) Ringgenberg also discloses that disposal formation 84 may receive any volume of fluid from test formation 82. (*Id.*) Evidently, the disposal formation that is disclosed in Ringgenberg is of sufficient size and has sufficient empty space to receive large quantities of fluid. Given the size of the disposal formation, check valve 104 may not have any interaction with the fluid once fluid is released into that formation. A stopped flow from that disposal formation cannot be presumed. The Examiner does not point us to any portion of Ringgenberg which describes such a stopped flow from the disposal formation.

We do not sustain the rejection of claim 14 as anticipated by Ringgenberg. Claims 15-18 are dependent on claim 14 and were rejected as unpatentable over Ringgenberg, Williamson, and Murray. The Examiner's analysis of claims 15-18 is directed to features added by those claims and does not make up the above-noted deficiencies with respect to claim 14. We also do not sustain the rejection of claims 15-18.

F. CONCLUSION

1. STC has not shown that the Examiner was incorrect in finding that Williamson discloses a flow valve and a cross-flow prevention valve.

2. STC has not shown that the Examiner was incorrect in finding that Williamson discloses a single hydraulic line for actuating a flow valve and a cross-flow prevention valve.

3. STC has shown that the Examiner was incorrect in finding that Ringgenberg's check valve 104 is a second multi-position flow valve controlling the flow from a next adjacent active formation.

G. ORDER

The rejection of claims 1-5, 7, and 19-23 under 35 U.S.C. § 102(b) as anticipated by Williamson is affirmed.

The rejection of claims 6 and 8-13 under 35 U.S.C. § 103(a) as unpatentable over Williamson and Murray is affirmed.

The rejection of claim 14 under 35 U.S.C. § 102(b) as anticipated by Ringgenberg is reversed.

The rejection of claims 15-18 under 35 U.S.C. § 103(a) as unpatentable over Ringgenberg, Williamson and Murray is reversed.

AFFIRMED-IN-PART

KMF

SCHLUMBERGER RESERVOIR COMPLETIONS
14910 AIRLINE ROAD
ROSHARON TX 77583